Claims

1. A method of treating patients suffering from severe glaucoma characterized by simultaneously administering a combination of IOP reducing agents to the eye.

2. A method according to claim 1, wherein said combination is administered to the surface of the eye.

3. A method according to claim 2, wherein said combination is a topical ophthalmic composition comprising a mixture of IOP-reducing agents.

4. A method according to claim 1, wherein said patients suffer from optical nerve head damage and visual field defects.

5. A method according to claim 1, wherein in improved efficacy in IOP reduction is obtained in severe glaucoma patients when compared to patients suffering from an elevated IOP, but being free from abnormalities in the optical nerve head and visual field loss.

6. A method according to claim 1, wherein said combination comprises an effective amount of an IOP-reducing agent capable of increasing the uveoscleral outflow of aqueous humor.

7. A method according to claim 1, wherein said combination comprises an effective amount of an IOP reducing prostaglandin or a prostaglandin derivative.

8. A method according to claim 7, wherein said combination comprises an IOP reducing amount of a prostaglandin $F_{2\alpha}$ derivative.

9. A method according to claim 8, wherein said prostaglandin $F_{2\alpha}$ derivative has an omega chain carrying a ring substituent in a terminal position, selected among optionally substituted phenyl, cycloalkyl or aromatic heterocyclic groups.

10. A method according to claim 9, wherein said prostaglandin $F_{2\alpha}$ is latanoprost or travaprost.

11. A method according to claim 8, wherein said prostaglandin $F_{2\alpha}$ derivative is isopropyl unoprostone.

12. A method according to claim 1, wherein said combination comprises an effective amount of an IOP-reducing agent capable of reducing the formation of aqueous humor.

13. A method according to claim 12, wherein said combination further comprises an effective amount of an IOP-reducing agent capable of increasing the uveoscleral outflow of aqueous humor.

14. A method according to claim 12, wherein said IOP-reducing agent is selected among beta-adrenergic agonists and carbonic anhydrase inhibitors.

15. A method according to claim 14, wherein said combination comprises a prostaglandin $F_{2\alpha}$ derivative and a beta-adrenergic agonist.

16. A method according to claim 15, wherein said combination comprises a prostaglandin $F_{2\alpha}$ derivative having an omega chain carrying a ring substituent in a terminal position, selected among optionally substituted phenyl, cycloalkyl or aromatic heterocyclic groups.

17. A method according to claim 16, wherein said combination comprises latanoprost and timolol.

18. A method according to claim 17, wherein said combination is a mixture of latanoprost and timolol in a topical ophthalmic composition.

19. A method of treating individuals in need of a high IOP-reduction characterized by simultaneously administering a combination of IOP reducing agents to eye.

20. A method according to claim 19, wherein said individuals have a hereditary disposition for glaucoma.

21. A method according to claim 19, wherein said individuals suffer from complications which may trigger ischemic conditions in the region of the optical nerve head.

22. A method according to claim 19, wherein said individuals suffer ocular hypertension without detected damages of the optical nerve head or a loss of the visual field.

23. A method according to claim 19, wherein said combination is administered to the surface of the eye.

24. A method according to claim 21, wherein said combination is a topical ophthalmic composition comprising a mixture of IOP-reducing agents.

25. A method according to claim 19, wherein said combination comprises an effective amount of an IOP-reducing agent capable of increasing the uveoscleral outflow of aqueous humor.

26. A method according to claim 19, wherein said combination comprises an effective amount of an IOP reducing prostaglandin or a prostaglandin derivative.

27. A method according to claim 26, wherein said combination comprises an IOP reducing amount of a prostaglandin $F_{2\alpha}$ derivative.

28. A method according to claim 27, wherein said prostaglandin $F_{2\alpha}$ derivative has an omega chain carrying a ring substituent in a terminal position, selected among optionally substituted phenyl, cycloalkyl or aromatic heterocyclic groups.

29. A method according to claim 28, wherein said prostaglandin $F_{2\alpha}$ is latanoprost or travaprost.

30. A method according to claim 29, wherein said prostaglandin $F_{2\alpha}$ derivative is isopropyl unoprostone.

31. A method according to claim 19, wherein said combination comprises an effective amount of an IOP-reducing agent capable of reducing the formation of aqueous humor.

32. A method according to claim 31, wherein said combination further comprises an effective amount of an IOP-reducing agent capable of increasing the uveoscleral outflow of aqueous humor.

33. A method according to claim 31, wherein said IOP-reducing agent is selected among beta-adrenergic agonists and carbonic anhydrase inhibitors.

34. A method according to claim 33, wherein said combination comprises a prostaglandin $F_{2\alpha}$ derivative and a beta-adrenergic agonist.

35. A method according to claim 34, wherein said combination comprises a prostaglandin $F_{2\alpha}$ derivative having an omega chain carrying a ring substituent in a terminal position, selected among optionally substituted phenyl, cycloalkyl or aromatic heterocyclic groups.

36. A method according to claim 35, wherein said combination comprises latanoprost and timolol.

37. A method according to claim 36, wherein said combination is a mixture of latanoprost and timolol in a topical ophthalmic composition.

38. The use of a combination of IOP-reducing agents for the preparation of a composition with improved efficacy in severe glaucoma patients.

39. The use according to claim 38 for the preparation of a composition for simultaneously administering the IOP reducing agents to the eye.

40. The use according to claim 39 for the preparation of a composition for administration to the surface of the eye.

41. The use according to claim 40, wherein said composition comprises a mixture of IOP-reducing agents.

42. The use according to any of claims 38 to 41, wherein said glaucoma patients suffer from optical nerve head damages and visual field defects.

43. The use according to any of claims 38 to 42, wherein said composition improves the efficacy in IOP reduction in severe glaucoma patients when compared to patients suffering from an

elevated IOP, but being free from abnormalities in the optical nerve head and visual field loss.

44. The use according any of claims 38 to 43, wherein said combination comprises an effective amount of an IOP reducing agent capable of increasing the uveoscleral outflow of aqueous humor.

45. The use according to any of claims 38 to 44, wherein said combination comprises an effective amount of an IOP reducing prostaglandin or a prostaglandin derivative.

46. The use according to claim 45, wherein said combination comprises an IOP reducing amount of a prostaglandin $F_{2\alpha}$ derivative.

47. The use according to claim 46, wherein said prostaglandin $F_{2\alpha}$ derivative has an omega chain carrying a ring substituent in a terminal position, selected among optionally substituted phenyl, cycloalkyl or aromatic heterocyclic groups.

48. The use according to claim 47, wherein said prostaglandin $F_{2\alpha}$ is latanoprost or travaprost.

49. The use according to claim 48, wherein said prostaglandin $F_{2\alpha}$ derivative is isopropyl unoprostone.

50. The use according to claim 38, wherein said combination comprises an effective amount of an IOP-reducing agent capable of reducing the formation of aqueous humor.

51. The use according to claim 50, wherein said combination further comprises an effective amount of an IOP-reducing agent capable of increasing the uveoscleral outflow of aqueous humor.

52. The use according to claim 50, wherein said IOP-reducing agent is selected among beta-adrenergic agonists and carbonic anhydrase inhibitors.

53. The use according to claim 51, wherein said combination comprises a prostaglandin $F_{2\alpha}$ derivative and a beta-adrenergic agonist.

54. The use according to claim 53, wherein said combination comprises a prostaglandin $F_{2\alpha}$ derivative having an omega chain carrying a ring substituent in a terminal position, selected among optionally substituted phenyl, cycloalkyl or aromatic heterocyclic groups.

55. The use according to claim 54, wherein said combination comprises latanoprost and timolol.

56. The use according to claim 55, wherein said combination is a mixture of latanoprost and timolol in a topical ophthalmic composition.

57. The use of a combination of IOP reducing agents in the preparation of composition for simultaneous treatment with said agents of individuals in need of a high IOP reduction

58. The use according to claim 57, wherein said individuals have a hereditary disposition for glaucoma.

59. The use according to claim 57, wherein said individuals suffer from complications which may trigger ischemic conditions in the region of the optical nerve head.

60. The use according to claim 57, wherein said individuals suffer from ocular hypertension without detected damages of the optical nerve head or a loss of the visual field.

61. The use according to claim 57, wherein said combination is administered to the surface of the eye.

62. The use according to claim 61, wherein said combination is a topical ophthalmic composition comprising a mixture of IOP-reducing agents.

63. The use according to claim 57, wherein said combination comprises an effective amount of an IOP-reducing agent capable of increasing the uveoscleral outflow of aqueous humor.

64. A method according to claim 57, wherein said combination comprises an effective amount of an IOP reducing prostaglandin or a prostaglandin derivative.

65. A method according to claim 64, wherein said combination comprises an IOP reducing amount of a prostaglandin $F_{2\alpha}$ derivative.

66. A method according to claim 65, wherein said prostaglandin $F_{2\alpha}$ derivative has an omega chain carrying a ring substituent in a terminal position, selected among optionally substituted phenyl, cycloalkyl or aromatic heterocyclic groups.

67. A method according to claim 66, wherein said prostaglandin $F_{2\alpha}$ is latanoprost or travaprost.

68. A method according to claim 65, wherein said prostaglandin $F_{2\alpha}$ derivative is isopropyl unoprostone.

69. A method according to claim 57, wherein said combination comprises an effective amount of an IOP-reducing agent capable of reducing the formation of aqueous humor.

70. A method according to claim 69, wherein said combination further comprises an effective amount of an IOP-reducing agent capable of increasing the uveoscleral outflow of aqueous humor.

71. A method according to claim 69, wherein said IOP-reducing agent is selected among beta-adrenergic agonists and carbonic anhydrase inhibitors.

72. A method according to claim 71, wherein said combination comprises a prostaglandin $F_{2\alpha}$ derivative and a beta-adrenergic agonist.

73. A method according to claim 72, wherein said combination comprises a prostaglandin $F_{2\alpha}$ derivative having an omega chain carrying a ring substituent in a terminal position, selected among optionally substituted phenyl, cycloalkyl or aromatic heterocyclic groups.

74. A method according to claim 73, wherein said combination comprises latanoprost and timolol.

75. A method according to claim 74, wherein said combination is a mixture of latanoprost and timolol in a topical ophthalmic composition.